

ABSTRACT

5 The present invention provides a method for enhancing the in vivo delivery of chimeric oligonucleotides, containing for example DNA/2'OMeRNA, into cells of a plant, an animal or a human, comprising a step of applying topically to or injecting into a tissue, or tissue adjacent to a tissue, containing said cells, a composition comprising said chimeric oligonucleotide, followed by, preceded by, or simultaneously to a step of transferring said chimeric oligonucleotide into said cells by iontophoresis, and relates to a gene therapy method comprising the iontophorically transfer of a chimeric oligonucleotide DNA/2'OMeRNA. The
10 present invention is also directed to particular chimeric oligonucleotides DNA/2'OMeRNA capable of inducing or inhibiting the expression of a specific gene involved in eye function by inducing or reverting a mutation in that specific gene, and their use as therapeutic composition for preventing or treating ocular diseases.